

1998 Summary of Indiana Solid Waste Facility Data



Indiana Department of Environmental Management
Office of Solid and Hazardous Waste Management
100 North Senate Avenue - P.O. Box 6015
Indianapolis, Indiana 46206-6015

The ***1998 Summary of Indiana Solid Waste Facility Data*** is the seventh in the series of annual reports of solid waste facility activities in Indiana. The information is compiled from solid waste facility quarterly reports submitted to the Indiana Department of Environmental Management (IDEM). The IDEM Office of Solid and Hazardous Waste Management publishes the ***1998 Summary of Indiana Solid Waste Facility Data*** to provide information to the public about solid waste processing and disposal activities in Indiana. This report was prepared by staff of the Waste Data Analysis and Planning Section.

Contributors:

Minerva Mercado Feliciano
Richard Worth

Project Coordinator:

Minerva Mercado Feliciano

Cover Photo:

(Waste disposal over synthetic
liner at Twin Bridges RDF,
Hendricks Co.)

Rick Roudebush

For additional information or to obtain additional copies of this report, please call the IDEM Office of Solid and Hazardous Waste Management at (317) 233-3834.

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INTRODUCTION

This report is the seventh annual summary of Indiana's solid waste facility data. It is intended to provide information about Indiana's solid waste management. The report provides solid waste facility information for 1998 and contains:

- # a summary of existing solid waste facilities;
- # a summary of the amount, origin, and types of solid waste received at land disposal facilities and processing facilities; and
- # a summary of out-of-state waste imports.

This report was compiled from the solid waste facility quarterly reports submitted to IDEM by owners and operators of facilities that manage non-hazardous solid waste. Rules passed by the Solid Waste Management Board require all solid waste land disposal facilities (329 IAC 10-14-1) and processing facilities (329 IAC 11-14-1) to submit information to IDEM on a quarterly basis describing the origin, type, and amount of solid waste received by these facilities. Processing facilities must also report the amount and destination of wastes that are transported off-site for recovery or disposal. Reports submitted to IDEM are on file and available for public review in the Office of Solid and Hazardous Waste Management.

This report emphasizes graphs, tables, and figures; discussion text is included only as necessary to guide the reader through the report and to provide a context for the graphs and tables. Several sections that were included in previous releases of this report are not present in this year's report. Much of the information in these sections has been duplicated from year to year and/or is available in other IDEM publications. Table 1 shows how to obtain this information in addition to other information that may interest readers of this report.

Previous reports summarized municipal solid waste (MSW) landfill capacity from amounts reported by facilities or from estimates made by IDEM. Beginning in 1996, landfills are required by regulation to submit contour maps annually based on surveys conducted between October 1 and December 31 of each year. IDEM uses this information to calculate accurate and precise totals for both airspace and waste capacity. Capacity data for 1997 and 1998 for MSW landfills is expected to be available in a separate IDEM report.

In 1996, IDEM began utilizing revised report forms to provide more detailed nonmunicipal waste information. Changes included the addition of waste categories for foundry wastes, coal ash, and flue gas desulfurization by-products. Prior to 1996, this report summarized nonmunicipal waste only as construction-demolition waste and special/other waste. Because of this, certain nonmunicipal waste types reported since 1996 could not be compared with previous years since those types were not individually reported. Therefore, annual comparisons of disposal by waste type is grouped by municipal waste and nonmunicipal waste in this report. However, information concerning solid waste disposal since 1996 includes all reported waste types.

Table 1. Sources of Solid Waste Data

Information Available	Description	Contact
Land disposal facility quarterly reports	Origin, type, and tonnage of solid waste received	Minerva Mercado (317) 233-3834
Processing facility quarterly reports	Origin, type, and tonnage of solid waste received and destination information	Minerva Mercado (317) 233-3834
Special waste quarterly reports	Type and generator of certified and generic special waste received at Indiana land disposal facilities	Marcia Earl (317) 233-2823
Composting facility annual reports	Type and volume of compost received and processed	Minerva Mercado (317) 233-3834
Transfer station inspection annual reports	Results from inspections of incoming waste for special, infectious, and hazardous waste	Kristi Dixon (317) 233-5161
Waste tire storage facility annual reports	On-site summary of incoming and outgoing tires	Steve Poe (317) 232-7205
Municipal waste transportation manifests	Waste generation, transportation, and disposal information that accompanies waste from processing facilities for final disposal	Richard Worth (317) 233-5156
Indiana MSW landfill disposal capacity reports	Remaining air space and disposal space at Indiana land disposal facilities	Richard Worth (317) 233-5156
Solid waste management fee reports (IDOR)	Monthly report showing fees collected for solid waste disposed at final disposal facilities	Pat Williams (317) 232-1859
Solid waste disposal fee reports (IDEM)	Semi-annual report showing fees collected for the disposal of specific types of solid waste	Pat Beeler (317) 233-0408
Solid waste management district annual reports	Information on district programs and activities	Minerva Mercado (317) 233-3834
Indiana solid waste diversion goals	Indiana's progress toward meeting its 35%/50% solid waste diversion goals	Minerva Mercado (317) 233-3834
Permitted solid waste facilities list	List of permitted solid waste facilities in Indiana	Debbie Baker (317) 232-0066

SOLID WASTE DATA FRAMEWORK

Several factors must be considered when discussing solid waste disposal in Indiana:

- # type and quantity of the waste disposed;
- # type and ownership of the facility which received the waste; and
- # origin of the waste received.

The following pages give an overview of key concepts necessary for understanding solid waste disposal data.

Solid Waste Types

Solid waste can be broadly categorized as either hazardous waste or non-hazardous waste. This report deals only with **non-hazardous waste**, which can be further broken down into municipal solid waste and all other non-hazardous solid waste. **Municipal solid waste**, or MSW, is any solid waste generated by community activities or the operation of residential or commercial establishments (329 IAC 10-2-115). Non-hazardous waste that is not MSW has been historically subdivided into categories such as **construction-demolition debris**, **special waste**, and other “nonmunicipal” waste types. In 1996, several categories of solid waste were added to the Facility Quarterly Report forms to provide more detailed waste information. Figure 1 shows the solid waste categories used since 1996. A more detailed explanation of these types is provided in Table 2.

Solid Waste Facilities

Solid waste facilities in Indiana fall into two broad permit categories: land disposal facilities and processing facilities. Each category can be further subdivided. **Land disposal facilities** are subdivided into four types: municipal solid waste (MSW) landfills, construction-demolition sites, restricted waste landfills (types 1 through 4), and nonmunicipal solid waste landfills. **Solid waste processing facilities** permitted by IDEM can be incinerators, transfer stations, solid waste balers, solid waste shredders, resource recovery systems, or garbage grinding facilities (329 IAC 11-2-43). Table 3 summarizes the number of permitted solid waste facilities that submitted data reports to IDEM during 1998.

Land Disposal Facilities

Municipal solid waste landfills (MSWLFs) can accept a wide range of solid wastes disposed from residential, commercial, institutional, and industrial sources, except hazardous waste regulated under 329 IAC 3.1. Special waste can be accepted at MSWLFs only in accordance with 329 IAC 10-8. Of the four landfill types, only MSWLFs can accept municipal solid wastes (Table 4).

Construction-demolition sites accept only construction or demolition waste materials (329 IAC 10-9-3).

Table 2. Solid Waste Classification Guide during 1998

TYPE	GENERAL CATEGORIES	EXAMPLES
Municipal Solid Waste (MSW)	<ul style="list-style-type: none"> Residential <ul style="list-style-type: none"> - Single- and multi-family units - Other (campgrounds, parks, etc.) Commercial <ul style="list-style-type: none"> - Retail and wholesale - Service industry Institutional <ul style="list-style-type: none"> - Prisons, hospitals, schools, and universities - Government sector Industrial non-process / municipal <ul style="list-style-type: none"> - Offices, lunchrooms, restrooms - Shipping / Receiving activities 	<ul style="list-style-type: none"> - Consumer goods - Packaging wastes - Food wastes - Office wastes - Yard trimmings / vegetation - White goods (appliances) - Automobile parts - Waste tires - Small animal carcasses - Medical wastes - Household hazardous wastes (includes oil, batteries, etc.) - Treated Infectious wastes - Used pallets - Cardboard - Furniture - Exempt special wastes (generated by a single generator in quantities less than 100 kilograms per month and disposed of in quantities less than 100 kilograms per shipment) - CESQG wastes
C/D	<ul style="list-style-type: none"> Construction / Demolition <ul style="list-style-type: none"> - Construction industry - Demolition companies 	<ul style="list-style-type: none"> - Uncontaminated solid waste resulting from the construction, remodeling, repair or demolition of structures. For example: <ul style="list-style-type: none"> ..Scrap lumber, wallboard .. Roofing materials - Plumbing and electrical fixtures - Bricks, concrete, glass - Non-asbestos insulation - CESQG wastes
Foundry	<ul style="list-style-type: none"> Foundry Waste 	<ul style="list-style-type: none"> - Waste sand, slag, sludge, core waste, dust fines, etc.
Special Other	<ul style="list-style-type: none"> Special (excluding foundry wastes) <ul style="list-style-type: none"> - Industrial process - Pollution control - Sludges - Waste requiring special waste certification 	<ul style="list-style-type: none"> - Spill cleanup wastes (petroleum cont. Soil, etc.) - Manufacturing process wastes (resins, oxides, etc.) - Water / wastewater sludges - Asbestos-containing wastes - Incinerator residues - Industrial sludges - Low-level PCB wastes - Wastes mixed with special wastes
Coal Ash	<ul style="list-style-type: none"> Coal Ash 	<ul style="list-style-type: none"> - Coal ash - Fly ash, bottom ash, etc. - Ash resulting from the combustion of coal
FGD Waste	<ul style="list-style-type: none"> Flue gas desulfurization byproducts 	<ul style="list-style-type: none"> - Scrubber / FGD sludge - Pollution control sludges resulting from coal combustion
Other	<ul style="list-style-type: none"> Any other solid waste not regulated as any of the above. 	<ul style="list-style-type: none"> - Oil / gas/ mining wastes - Pesticide containers - Railroad ties

CESQG = conditionally exempt small quantity generator

PCB = polychlorinated biphenyl

FGD = flue gas desulfurization

Figure 1. Solid Waste Categories in Facility Quarterly Reports since 1996

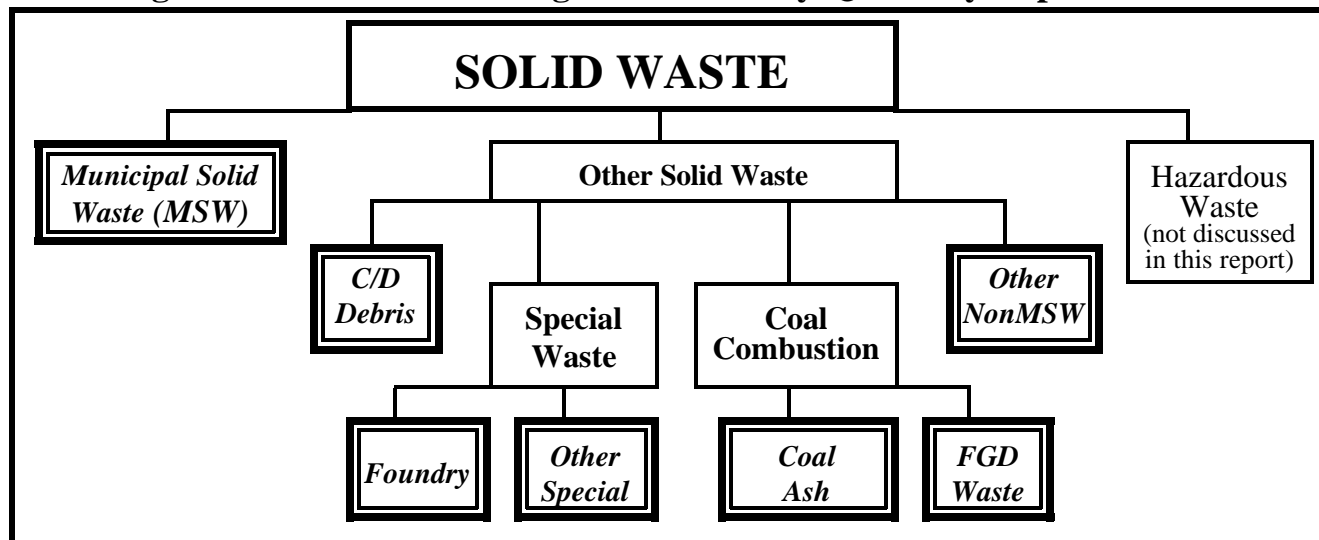


Table 3. Number of Solid Waste Facilities Which Operated during 1998

A. Land Disposal Facilities		B. Processing Facilities	
Municipal Solid Waste Landfills	38	Solid Waste Incinerators⁽⁴⁾	3
• Privately Owned	26	• Municipal	1
• Publicly Owned ⁽¹⁾	12	• Industrial ⁽³⁾	1
		• Hospital	1
Construction-Demolition Sites⁽²⁾	13	Transfer Stations	55
Restricted Waste Landfills⁽³⁾	20	• Privately Owned	40
Nonmunicipal Solid Waste Landfills⁽³⁾	5	• Publicly Owned	15
TOTAL	76	Paper Processing/Recycling	1
		TOTAL	59

(1) Includes Belmont Ash Monofill which receives municipal incinerator ash.

(2) Some facilities are captive sites.

(3) All facilities are captive sites.

(4) Incinerators designed to accept at least 10 tons per day.

Table 4. Types of Landfills and Incinerators

A. Landfills		
Type	Acceptable Wastes	Data reported to IDEM
Municipal Solid Waste Landfill	Municipal waste, construction-demolition debris, special wastes, industrial wastes, other non-municipal wastes	Yes
Construction-Demolition Site	Construction-demolition debris only (unless otherwise approved by IDEM)	Yes
Restricted Waste Landfill	Non-municipal waste(s) specified in permit	Yes
Nonmunicipal Solid Waste	Wastes other than residential and commercial	Yes

B. Incinerators		
Type	Acceptable Wastes	Data reported to IDEM
Large solid waste	Municipal waste, construction-demolition debris, special wastes, industrial wastes, other non-municipal wastes	Yes
Small solid waste ⁽¹⁾	Municipal waste, construction-demolition debris, special wastes, industrial wastes, other non-municipal wastes	No
Large infectious waste	Infectious waste (may also accept certain non-infectious waste)	Yes
Small infectious waste ⁽²⁾	Infectious waste (may also accept certain non-infectious waste)	No

(1) Incinerators designed to accept less than 10 tons per day (329 IAC 11-9-2).

(2) Incinerators designed to accept less than 7 tons per day (329 IAC 11-9-2).

Restricted waste landfills can accept only materials specified in their landfill permits as determined by the classification criteria in 329 IAC 10-9-4. Coal combustion by-products comprise the largest portion of the waste tonnage disposed at restricted waste landfills.

Like restricted waste sites, **nonmunicipal solid waste landfills** can accept only materials specified in their landfill permits. But nonmunicipal solid waste landfills have more stringent design standards than restricted waste sites. All of Indiana's nonmunicipal solid waste landfills are currently captive facilities and therefore, are not available for public use.

In addition to the facility standards discussed here, each individual site may dispose of other materials not included in the above definitions according to their individual permits.

Processing Facilities

The term *incinerator* is broadly defined as an engineered facility designed for the burning of solid waste under controlled conditions. As Table 4 shows, incinerators in Indiana are categorized and regulated as either **solid waste incinerators** or **infectious waste incinerators**.

Solid waste incinerators with a design capacity of at least 10 tons per day and infectious waste incinerators with a design capacity of at least 7 tons per day must obtain a solid waste permit under Indiana solid waste rules 329 IAC 11-9 and 329 IAC 11-17. Other incinerators must notify IDEM and comply with certain operational requirements as stated in 329 IAC 11-19-2 and are deemed to be permitted.

Although incinerators are permitted and regulated under the category of processing facilities, they are considered to be final disposal facilities for planning and disposal fee purposes, as evident in statutory language. The disposal reduction goal language of P.L. 10-1990 also categorizes incineration as a final disposal method.

A **transfer station** is a facility at which solid waste is transferred from a vehicle or container to another vehicle or container for transportation purposes (329 IAC 11-2-47). Transfer stations may manage materials in other ways according to their individual permits. For example, activities at a permitted transfer station may involve only the consolidation of waste loads for further transport, or may also incorporate some form of materials recovery, during which recyclables are segregated for recycling or reuse.

Other processing facilities may include tire, paper, and medical waste processing facilities. During 1998, only one such processing facility that was not a transfer station was in operation (South Bend Waste Paper; see the "1998 Solid Waste Facility Profiles" page P-83).

Accuracy of Facility Reports

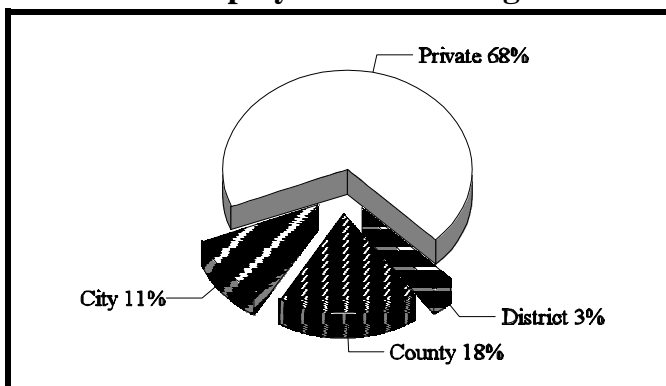
IDEM conservatively estimates that municipal solid waste tonnages may be over-reported by 20 to 40 percent due to some loads of municipal solid waste being mixed with nonmunicipal solid waste, yet identified only as municipal solid waste. According to studies in other states,

construction-demolition wastes alone can constitute as much as one-third of municipal solid waste. The portion of municipal solid waste that is actually special/other waste is unknown. Because of these uncertainties, caution should be used when attempting to draw conclusions regarding exact tonnages of particular waste types.

Facility Ownership

Since the facility quarterly report program began in 1991, more of Indiana MSW landfills have been privately-owned than publicly-owned (Table 3). Figure 2 shows the percentages of private and public ownership of MSW landfills in 1998.

Figure 2. Municipal Solid Waste Landfill Ownership by Percent during 1998



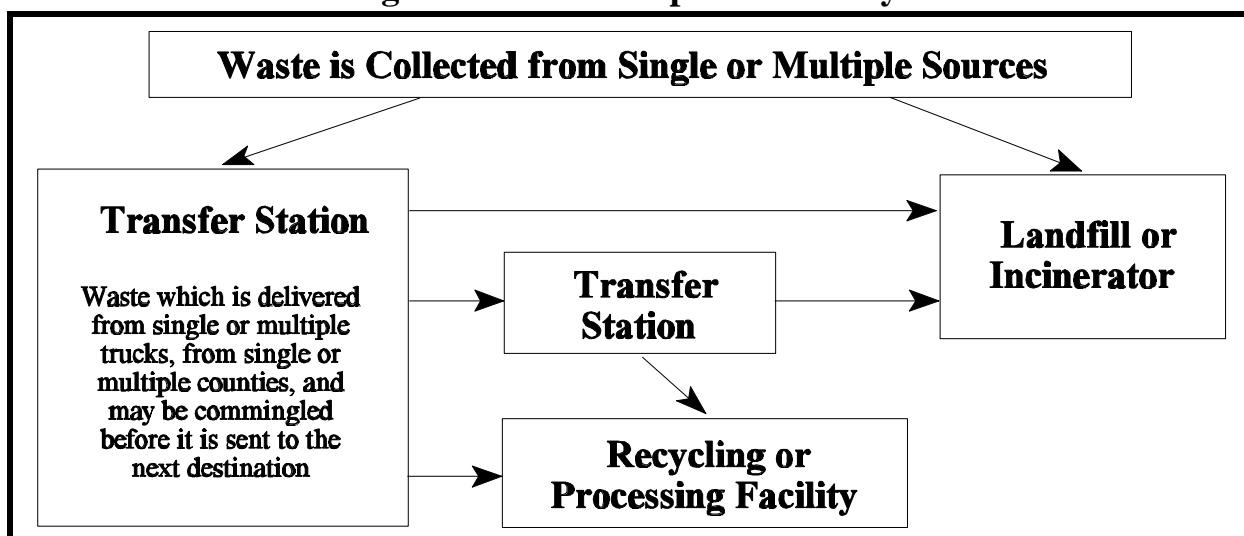
Most construction-demolition and restricted waste sites are privately owned. About three-fourths of Indiana's transfer stations and other permitted processing facilities are privately owned.

Origin of Waste

Origin of waste can be broken down by state and by county. A discussion of out-of-state waste is provided beginning on page 25.

Determination of the point of origin of waste by county is difficult due to the manner in which waste is collected and transported to landfills. Waste collection vehicles may transport the waste directly to a landfill and the hauler will report to the landfill operator the county of origin. If the

Figure 3. Waste Disposal Pathways



waste collection routes include more than one county as points of origin, the hauler is required to report an estimated percentage of waste for each county to the landfill owner/operator.

Furthermore, IDEM guidance instructs land disposal facilities to list the origin of waste received from transfer stations as the county in which the transfer station is located. The extent to which this actually occurs, however, is unknown.

Some waste collection vehicles transport waste to a transfer station, where the hauler is required to report the county (or counties) of origin. The waste received at the transfer station may be commingled with waste from other waste collection vehicles. All or part of the commingled waste may then go to one or more landfills, incinerators, transfer stations, or recycling/processing facilities, where the origin typically is reported as being the county in which the transfer station is located. Figure 3 illustrates the variety of paths that waste can take after it is collected.

In summary, the county identified on some quarterly reports may not be the point of origin, but in fact a transfer point for the waste before it is delivered to the landfill. Table 5 lists estimated amounts disposed at Indiana facilities by county of origin.

Table 5. Waste Tons Disposed in Indiana¹, by Estimated County of Origin

County	1991	1992	1993	1994	1995	1996	1997	1998
Adams	34,985	31,228	28,223	33,358	38,589	82,830	49,022	46,997
Allen	321,333	378,087	478,877	501,005	491,889	494,719	550,574	528,554
Bartholomew	115,807	120,055	132,685	168,223	167,021	161,007	173,351	191,438
Benton	2,066	3,138	4,236	3,087	1,642	1,844	1,900	2,199
Blackford	18,194	18,317	17,296	18,383	20,730	24,606	27,348	48,518
Boone	25,337	33,573	82,292	89,735	92,202	79,640	84,757	64,080
Brown	7,725	7,553	8,537	6,527	6,547	5,487	5,318	5,619
Carroll	20,444	11,527	13,089	12,487	16,707	20,003	23,776	19,776
Cass	45,113	33,271	39,758	70,565	37,950	44,121	43,908	52,326
Clark	82,345	78,966	75,117	76,267	84,305	84,724	90,707	103,161
Clay	13,904	17,542	17,020	16,284	16,472	19,986	22,152	22,960
Clinton	17,927	23,412	55,285	51,544	34,502	102,988	48,398	46,056
Crawford	3,458	4,286	3,622	5,708	4,462	4,533	4,360	9,170
Daviess	26,052	26,387	27,476	27,553	22,514	26,399	27,461	30,475
De Kalb	133,292	109,972	83,330	107,072	120,568	135,793	159,354	171,319
Dearborn	6,890	7,075	10,576	8,271	2,892	1,097	2,230	2,363
Decatur	24,140	23,419	24,155	24,675	25,690	26,495	25,927	26,226
Delaware	112,654	152,730	132,439	150,559	146,796	153,700	152,976	123,425
Dubois	41,569	33,639	47,232	46,690	47,156	49,421	41,456	42,615
Elkhart	420,748	386,796	428,990	427,498	396,980	403,998	418,501	436,873
Fayette	14,122	17,841	14,041	19,835	15,971	15,214	15,243	20,266
Floyd	90,932	85,859	80,326	79,860	79,095	80,083	71,970	68,411
Fountain	14,989	18,660	19,360	15,829	151,202	58,614	80,733	58,391
Franklin	7,441	5,785	5,727	4,204	3,848	6,368	6,757	4,104

Table 5. Waste Tons Disposed in Indiana¹, by Estimated County of Origin (cont.)

County	1991	1992	1993	1994	1995	1996	1997	1998
Fulton	12,675	35,608	20,939	22,473	23,155	25,720	30,168	45,306
Gibson	466,325	592,435	474,288	539,476	761,823	674,850	873,079	1,746,533
Grant	69,444	59,575	83,439	61,314	84,441	75,715	89,667	83,457
Greene	12,561	17,250	20,576	18,870	20,420	25,107	18,448	20,562
Hamilton	87,653	89,298	122,924	158,073	157,420	134,504	158,906	237,414
Hancock	22,008	35,709	27,489	27,149	29,245	49,818	101,332	114,296
Harrison	14,525	15,184	13,175	16,006	16,445	15,428	17,335	17,503
Hendricks	69,717	75,558	92,919	107,472	137,516	152,317	131,373	128,098
Henry	40,781	60,959	78,887	81,476	88,946	101,489	92,413	94,263
Howard	101,461	131,281	123,173	141,514	94,813	145,149	158,636	171,149
Huntington	33,479	31,006	33,534	52,702	53,397	50,301	39,284	38,921
Jackson	39,863	53,423	48,393	68,801	71,756	69,185	55,374	57,476
Jasper	469,912	425,922	400,574	481,455	485,491	441,463	142,345	163,521
Jay	15,537	15,324	12,909	20,176	23,201	21,791	22,599	54,744
Jefferson	130,876	262,179	289,067	303,733	228,047	203,607	95,901	66,628
Jennings	10,870	11,362	10,730	13,341	16,118	16,903	18,747	21,175
Johnson	65,095	78,177	88,460	74,928	81,456	102,156	158,099	162,655
Knox	66,157	40,542	45,678	90,257	72,336	40,287	68,369	54,297
Kosciusko	143,282	145,455	132,486	169,167	198,639	223,331	243,412	243,020
La Porte	152,517	168,305	165,073	147,037	173,752	165,302	178,191	164,755
Lagrange	26,929	15,514	23,057	21,789	19,952	25,260	26,426	50,596
Lake	586,985	742,521	536,550	642,599	829,290	970,447	852,210	1,055,950
Lawrence	54,574	45,091	53,041	44,525	55,743	42,217	46,633	39,590
Madison	133,274	134,795	121,846	150,131	162,616	180,553	182,615	173,863
Marion	1,598,283	1,584,135	1,530,192	1,470,790	1,491,427	1,398,435	1,428,798	1,318,666
Marshall	56,526	58,568	85,391	81,407	86,184	74,007	81,147	92,889
Martin	5,336	6,436	7,647	5,150	9,811	7,795	7,898	13,924
Miami	32,338	24,846	40,395	22,219	34,860	28,231	28,471	32,925
Monroe	100,932	119,653	116,753	108,888	109,571	115,011	128,939	137,917
Montgomery	47,916	53,011	57,526	62,004	58,727	47,935	79,218	159,477
Morgan	19,440	19,197	18,408	19,172	29,448	42,800	42,456	53,022
Newton	7,904	10,093	11,785	14,642	13,046	18,374	17,972	14,313
Noble	23,302	36,958	45,764	51,179	45,841	47,232	82,020	139,272
Ohio	194	183	656	790	245	143	67	51
Orange	10,089	11,922	14,857	18,942	15,317	15,822	17,836	18,042
Owen	7,581	8,253	6,936	13,889	14,381	13,598	13,791	8,131
Parke	4,437	6,294	6,547	8,132	7,261	9,570	16,589	11,682
Perry	9,887	9,945	8,729	7,445	3,337	4,338	45,987	78,354
Pike	622,002	661,782	618,918	466,114	600,831	387,451	605,704	520,912
Porter	107,514	124,091	182,202	148,782	121,909	133,265	138,160	144,733
Posey	307,986	303,103	276,065	363,826	359,121	380,050	469,841	459,242

Table 5. Waste Tons Disposed in Indiana¹, by Estimated County of Origin (cont.)

County	1991	1992	1993	1994	1995	1996	1997	1998
Pulaski	8,090	8,120	9,371	7,585	8,470	9,295	7,705	8,652
Putnam	18,676	29,396	29,836	24,572	29,397	36,315	30,169	27,946
Randolph	14,468	32,827	23,606	27,086	28,514	29,113	30,653	34,387
Ripley	17,292	17,969	17,573	21,096	17,979	12,885	13,219	12,123
Rush	38,474	48,646	45,651	37,167	39,091	30,806	20,265	30,455
Scott	22,573	20,878	19,353	13,538	18,072	18,810	20,401	21,626
Shelby	63,986	58,184	58,863	62,028	64,486	85,856	103,078	107,471
Spencer	184,971	56,516	38,023	38,218	29,007	46,792	15,855	203,862
St. Joseph	266,172	281,068	282,981	255,242	250,357	243,957	258,706	258,065
Starke	11,795	18,620	15,502	19,261	14,042	14,954	15,281	14,436
Steuben	24,201	28,099	23,497	22,949	25,564	24,985	21,704	19,735
Sullivan	878,011	785,669	837,890	844,348	811,767	1,008,275	1,016,220	948,650
Switzerland	1,494	1,203	2,128	4,289	3,337	1,088	1,953	1,794
Tippecanoe	165,355	185,129	237,555	187,477	179,656	240,763	176,888	187,275
Tipton	11,368	14,553	13,091	12,998	14,802	13,056	14,108	12,324
Union	1,397	1,865	2,358	2,543	2,560	1,734	1,124	511
UNKNOWN	943	1,254	979	627	433	0	0	0
Vanderburgh	213,218	227,850	262,894	267,765	287,870	265,100	285,049	290,799
Vermillion	36,951	38,882	45,628	41,297	38,601	46,740	36,429	37,872
Vigo	111,386	206,834	215,119	226,194	225,832	213,877	202,204	206,839
Wabash	159,386	189,054	185,535	255,920	217,768	207,043	234,006	274,942
Warren	2,563	2,157	2,823	1,047	146	372	96	280
Warrick	101,130	83,808	47,199	49,303	45,159	43,003	47,181	51,879
Washington	14,376	12,475	13,851	18,160	18,517	19,590	18,443	20,986
Wayne	92,188	90,182	95,676	113,912	94,583	90,756	87,569	94,262
Wells	27,439	30,864	45,575	40,255	37,170	30,168	28,472	31,396
White	20,193	22,176	25,757	28,603	27,499	32,240	32,436	32,368
Whitley	22,786	52,752	40,568	51,748	27,462	28,420	16,591	10,469

¹ Note: The information in Table 5 reflects the amount of waste from each county which was disposed of in an Indiana final disposal facility, either by direct haul or through an Indiana transfer station. It does not include waste disposed out-of-state, which explains the low amounts reported for counties near state lines.

SOLID WASTE LAND DISPOSAL FACILITIES

The data in this annual summary reflects the information provided in the solid waste facility quarterly reports as submitted to IDEM. There may be some differences between the numbers published in this summary report and previously published annual reports. The differences primarily are due to improvements in the data quality checks made by IDEM Office of Solid and Hazardous Waste Management.

Table 6 displays the amount of solid waste disposed at Indiana land disposal facilities by each reported waste type during 1998. Figure 4 displays this information by landfill type, and Figure 5 by waste type. Table 7 displays similar information from 1991 through 1998 for municipal and nonmunicipal waste. Table 8 shows waste reported to originate from Indiana only. Waste received at solid waste incinerators is discussed on page 21 in the chapter on processing facilities.

Table 6. Disposal of Solid Waste by Landfill Type and Waste Type during 1998

Waste Type	Tons of Waste Disposed				
	Municipal Solid Waste Landfills	Construction/Demolition Landfills	Restricted Waste Landfills	Nonmunicipal Solid Waste Landfills	All Landfills
Municipal	7,261,741	0	0	1,643	7,263,384
C/D	995,465	192,713	5,200	3,010	1,196,388
Foundry	153,954	0	614,059	0	768,013
Other Special	1,991,012	0	180,121	20,214	2,191,347
Coal Ash	1,404	0	757,989	0	759,393
FGD Waste	0	0	3,132,115	0	3,132,115
Other NonMSW	60,912	0	0	21,142	82,054
TOTAL	10,464,488	192,713	4,689,484	46,009	15,392,694

Figure 4. Disposal of Solid Waste by Landfill Type during 1998

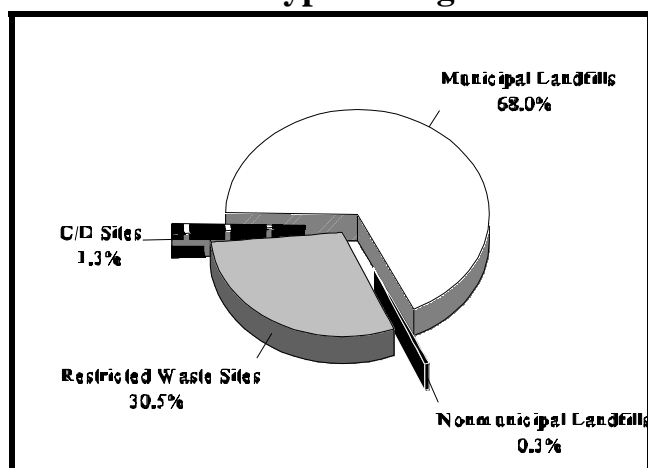
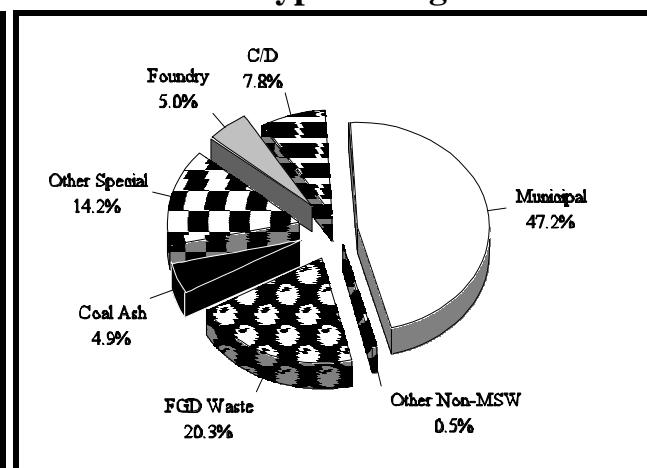


Figure 5. Disposal of Solid Waste by Waste Type during 1998



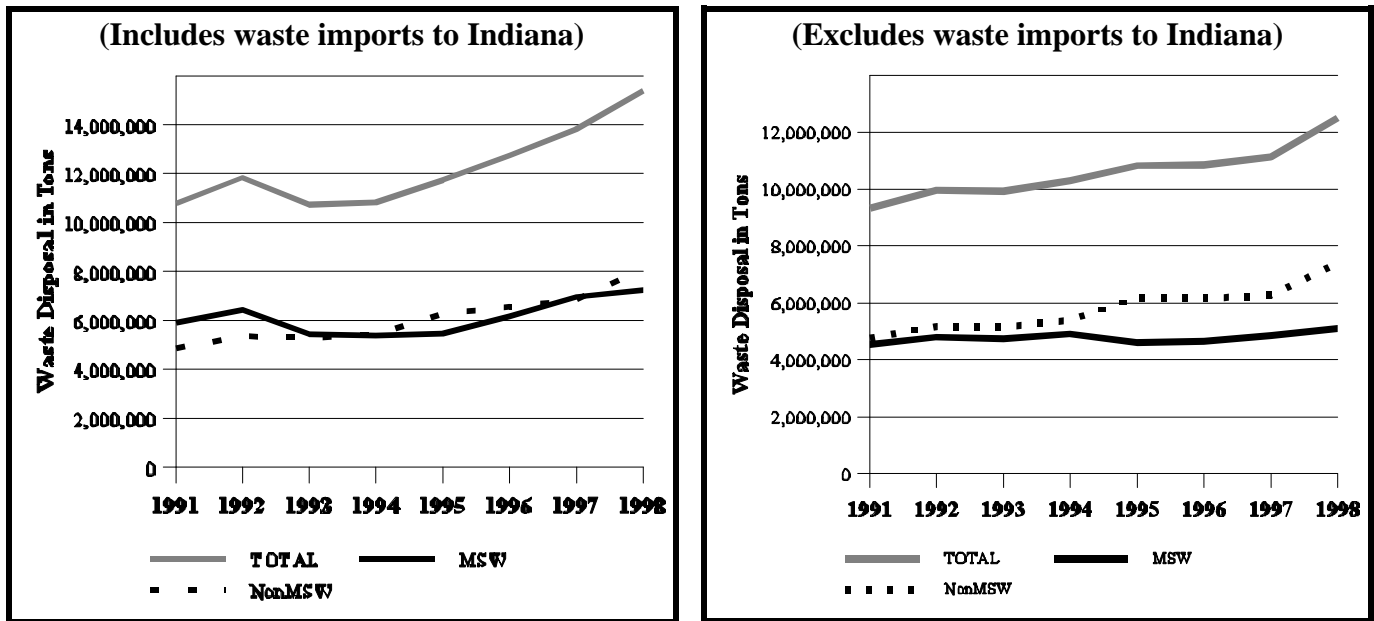
**Table 7. Annual Disposal at Solid Waste Land Disposal
Facilities by Landfill Type and Waste Type**
(Includes waste imports to Indiana)

Landfill Type	Waste Type	Tons of Waste Disposed							
		1991	1992	1993	1994	1995	1996	1997	1998
Municipal Solid Waste Landfills	MSW	5,917,315	6,435,161	5,439,663	5,404,144	5,457,806	6,182,558	6,957,586	7,261,741
	NonMSW	1,479,025	1,919,670	1,966,400	1,820,831	2,277,228	2,503,407	2,898,111	3,202,747
	TOTAL	7,396,340	8,354,831	7,406,063	7,224,975	7,735,034	8,685,965	9,855,697	10,464,488
Construction/Demolition Sites	MSW	0	0	0	0	0	0	0	0
	NonMSW	113,224	120,502	146,491	156,718	144,773	212,448	187,725	192,713
	TOTAL	113,224	120,502	146,491	156,718	144,773	212,448	187,725	192,713
Restricted Waste Landfills	MSW	0	0	0	0	0	0	0	0
	NonMSW	3,200,387	3,272,803	3,152,091	3,431,672	3,828,695	3,824,287	3,740,680	4,689,484
	TOTAL	3,200,387	3,272,803	3,152,091	3,431,672	3,828,695	3,824,287	3,740,680	4,689,484
Nonmunicipal Solid Waste Landfills	MSW	2,300	2,636	3,289	2,818	3,695	3,056	2,819	1,643
	NonMSW	80,513	65,314	33,429	34,988	33,359	28,355	34,123	44,366
	TOTAL	82,813	67,950	36,718	37,806	37,054	31,411	36,942	46,009
All Landfills	MSW	5,919,615	6,437,797	5,442,952	5,406,962	5,461,501	6,185,614	6,960,405	7,263,384
	NonMSW	4,873,149	5,378,289	5,298,411	5,444,209	6,284,055	6,568,497	6,860,639	8,129,310
	TOTAL	10,792,764	11,816,086	10,741,363	10,851,171	11,745,556	12,754,111	13,821,044	15,392,694

**Table 8. Annual Disposal at Solid Waste Land Disposal
Facilities by Landfill Type and Waste Type**
(Excludes waste imports to Indiana)

Landfill Type	Waste Type	Tons of Waste Disposed							
		1991	1992	1993	1994	1995	1996	1997	1998
Municipal Solid Waste Landfills	MSW	4,555,613	4,786,065	4,746,814	4,903,029	4,616,681	4,661,109	4,856,749	5,103,908
	NonMSW	1,388,449	1,724,787	1,837,649	1,785,798	2,194,894	2,191,770	2,359,467	2,546,711
	TOTAL	5,944,062	6,510,852	6,584,463	6,688,827	6,811,575	6,852,879	7,216,216	7,650,619
Construction/Demolition Sites	MSW	0	0	0	0	0	0	0	0
	NonMSW	113,224	120,502	146,491	153,421	137,998	135,050	148,257	163,479
	TOTAL	113,224	120,502	146,491	153,421	137,998	135,050	148,257	163,479
Restricted Waste Landfills	MSW	0	0	0	0	0	0	0	0
	NonMSW	3,200,387	3,272,803	3,152,091	3,431,672	3,828,695	3,824,287	3,740,680	4,689,484
	TOTAL	3,200,387	3,272,803	3,152,091	3,431,672	3,828,695	3,824,287	3,740,680	4,689,484
Nonmunicipal Solid Waste Landfills	MSW	2,300	2,636	3,289	2,818	3,695	3,056	2,819	1,643
	NonMSW	80,513	65,314	33,429	34,988	33,359	28,355	34,123	41,962
	TOTAL	82,813	67,950	36,718	37,806	37,054	31,411	36,942	43,605
All Landfills	MSW	4,557,913	4,788,701	4,750,103	4,905,847	4,620,376	4,664,165	4,859,568	5,105,551
	NonMSW	4,782,573	5,183,406	5,169,660	5,405,879	6,194,946	6,179,462	6,282,527	7,441,636
	TOTAL	9,340,486	9,972,107	9,919,763	10,311,726	10,815,322	10,843,627	11,142,095	12,547,187

Figure 6. Annual Disposal at All Solid Waste Land Disposal Facilities



Municipal Solid Waste Landfills

Most questions about land disposal facilities deal primarily with municipal solid waste (MSW) landfills. MSW landfills receive waste materials from residences, businesses, institutions, and industries. As a result of the wide range of waste types these landfills receive, they are built to a more stringent landfill design criteria than, for example, a construction-demolition site that accepts only construction-demolition wastes. Note that Figure 9 shows the disposal of out-of-state waste vs. Indiana waste at MSW landfills. A more detailed discussion of out-of-state waste is provided beginning on page 25.

Figure 10 shows the distribution of disposal among MSW landfills. Notice that about one third (34%) of MSW landfills accepted less than 100,000 tons of solid waste.

Table 8 summarizes total disposal at individual MSW landfills during 1997. More detailed disposal data for all solid waste disposal facilities is given at the end of this report in "1998 Solid Waste Facility Profiles."

Figure 7. Disposal of Solid Waste at Municipal Solid Waste Landfills by Waste Type during 1998

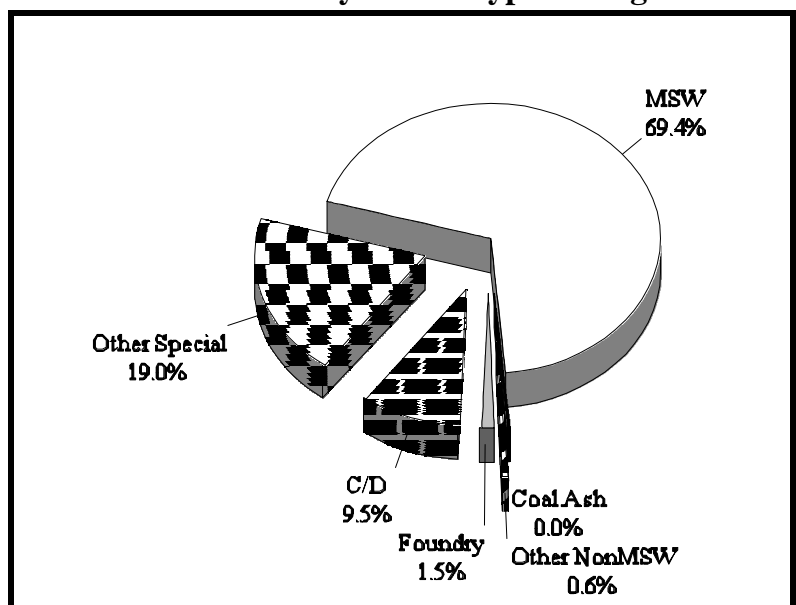


Figure 8. Annual Disposal at Municipal Solid Waste Landfills

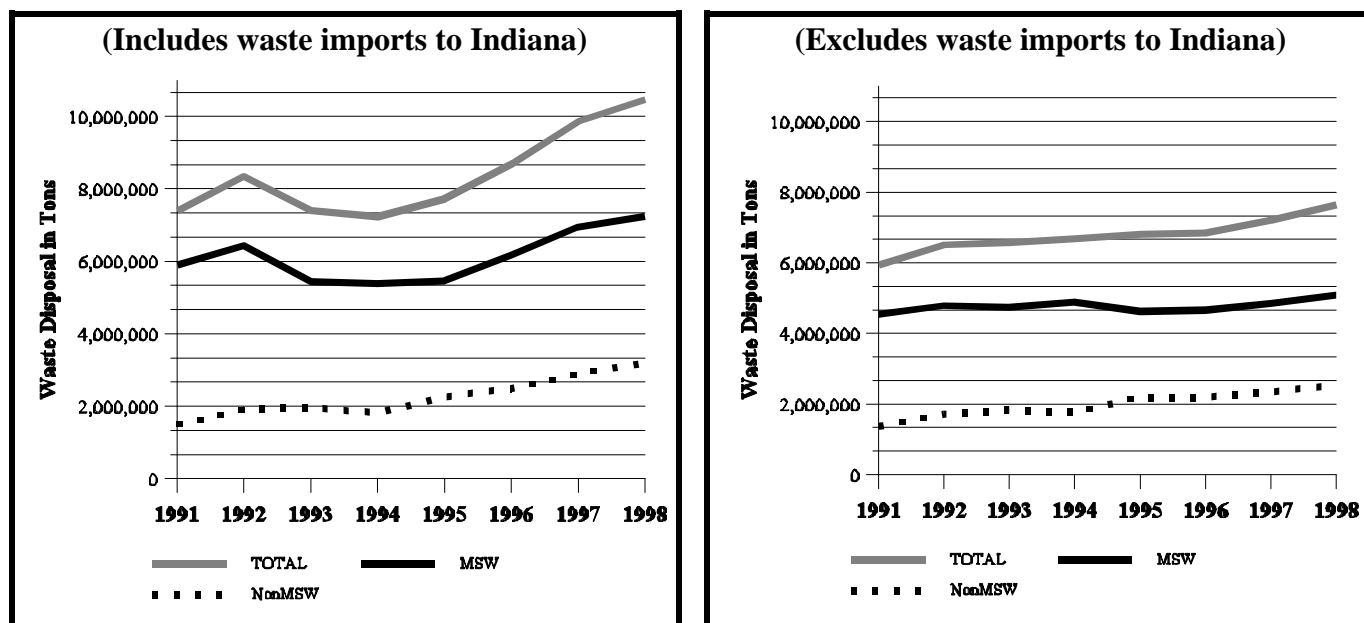


Figure 9. Annual Disposal at Municipal Solid Waste Landfills by Waste Origin

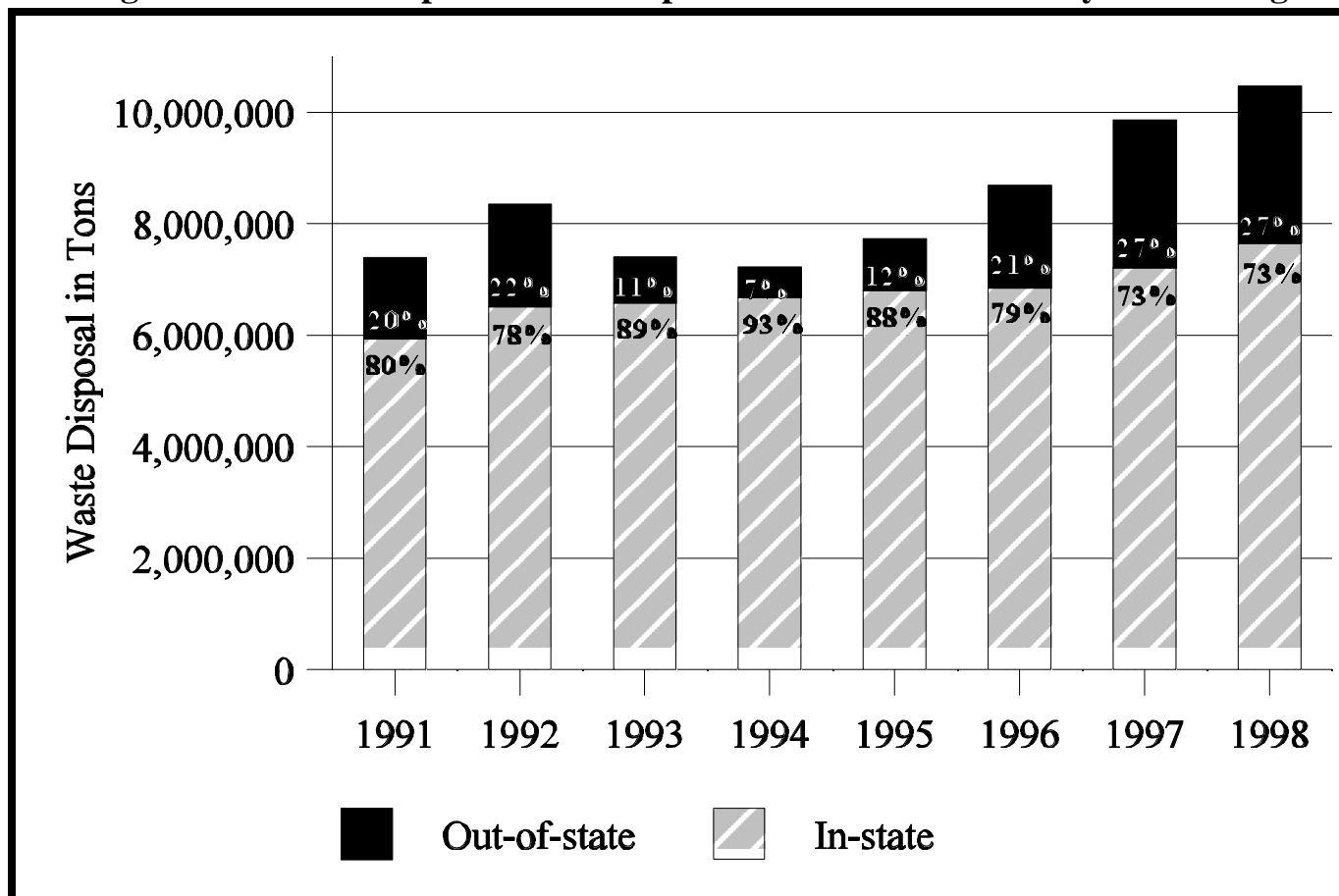


Figure 10. Distribution of Disposal at Municipal Solid Waste Landfills during 1998

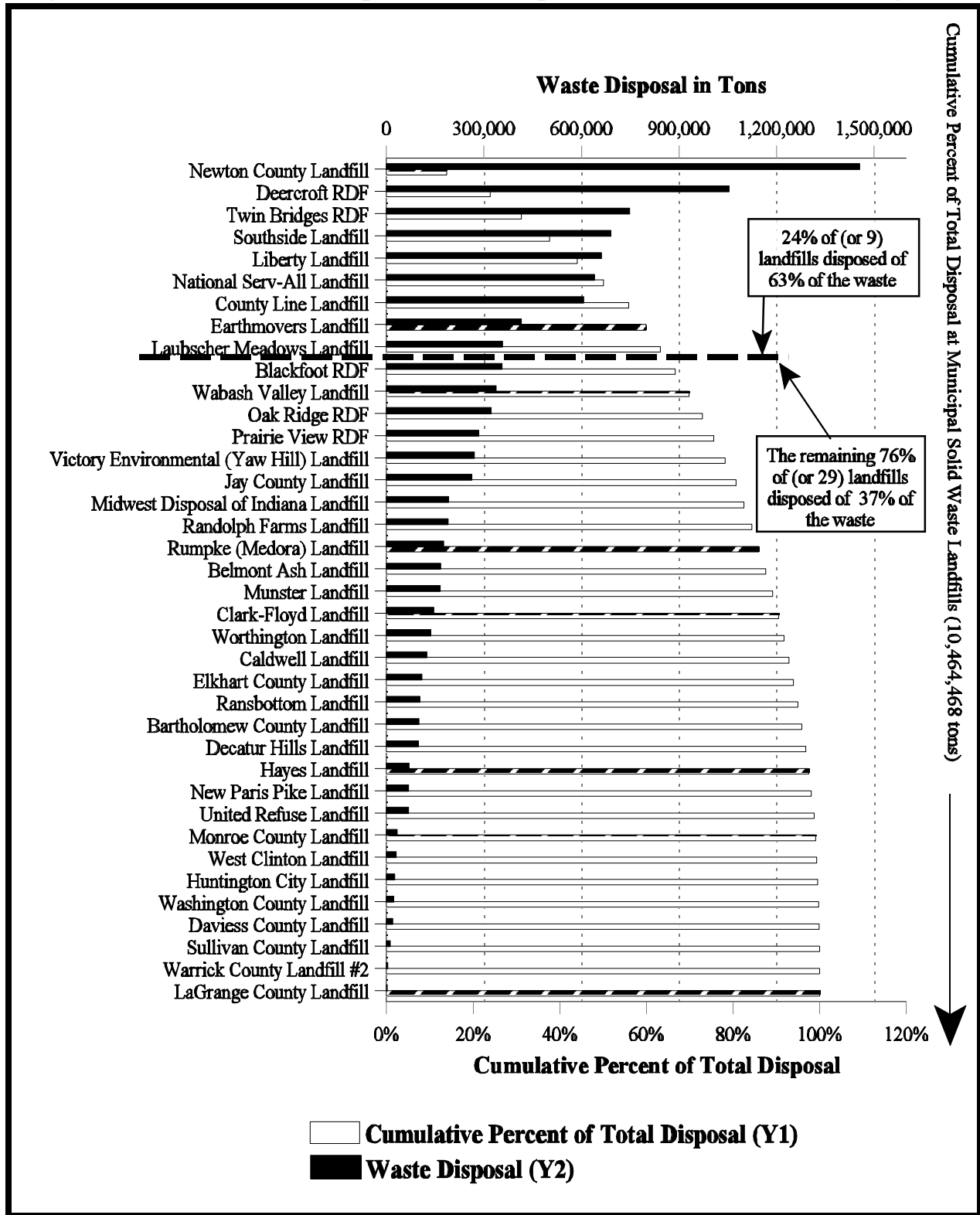


Table 9. Total Disposal at Municipal Solid Waste Landfills During 1998

County Location of Facility	Facility Name	Waste Disposal in Tons	# of Operating Days	Disposal Per Operating Day
Allen	National Serv-All Landfill	639,434	308	2,076
Allen	United Refuse Landfill	66,276	202	328
Bartholomew	Bartholomew County Landfill	98,521	307	321
Cass	Oak Ridge RDF	320,866	308	1,042
Clark	Clark-Floyd Landfill	144,498	306	472
Clinton	Midwest Disposal of Indiana Landfill	189,038	297	636
Daviess	Daviess County Landfill	17,939	300	60
Decatur	Decatur Hills Landfill	96,442	306	315
Elkhart	Earthmovers Landfill	413,369	305	1,355
Elkhart	Elkhart County Landfill	107,880	290	372
Fulton	County Line Landfill	605,666	308	1,966
Greene	Worthington Landfill	135,457	309	438
Hendricks	Twin Bridges RDF	746,241	312	2,392
Henry	Hayes Landfill	68,181	306	223
Huntington	Huntington City Landfill	24,609	302	81
Jackson	Rumpke (Medora) Landfill	175,163	307	571
Jay	Jay County Landfill	261,829	292	897
Kosciusko	Ransbottom Landfill	100,999	305	331
La Porte	Deercroft RDF	1,053,526	308	3,421
Lagrange	LaGrange County Landfill	506	60	8
Lake	Munster Landfill	163,575	245	668
Marion	Belmont Ash Landfill	165,385	312	530
Marion	Southside Landfill	688,307	309	2,228
Monroe	Monroe County Landfill	30,903	309	100
Newton	Newton County Landfill	1,454,465	308	4,722
Pike	Blackfoot RDF	354,304	312	1,136
Randolph	Randolph Farms Landfill	187,896	309	608
Shelby	Caldwell Landfill	122,563	308	398
St. Joseph	Prairie View RDF	282,197	308	916
Sullivan	Sullivan County Landfill	10,370	253	41
Vanderburgh	Laubscher Meadows Landfill	355,689	303	1,174
Vermillion	West Clinton Landfill	28,325	254	112
Vigo	Victory Environmental Landfill	269,106	308	874
Wabash	Wabash Valley Landfill	336,674	322	1,046
Warrick	Warrick County Landfill #2	1,609	74	22
Washington	Washington County Landfill	20,225	304	67
Wayne	New Paris Pike Landfill	66,467	251	265
White	Liberty Landfill	659,988	307	2,150
Total for all Municipal Solid Waste Landfill		10,464,488		

Other Solid Waste Land Disposal Facilities

Construction-Demolition Sites

Construction-demolition sites receive a limited range of wastes, as specified in the facility permit. They represent a relatively small amount of the total waste disposed in Indiana, as shown previously in Figure 4. Traditionally, construction-demolition sites have not received a significant amount of out-of-state waste. Some waste was imported to Indiana in 1994 and 1995, as shown in Figure 11. In 1996, however, the amount of out-of-state waste received at construction-demolition sites increased from 5 to 36 percent. Lower percentages of out-of-state C/D waste were received by construction-demolition sites during 1997 and 1998.

Table 10 provides a listing of the construction-demolition landfills and the total amount of waste each facility received in 1998.

Figure 11. Annual Disposal at Construction-Demolition Sites by Waste Origin

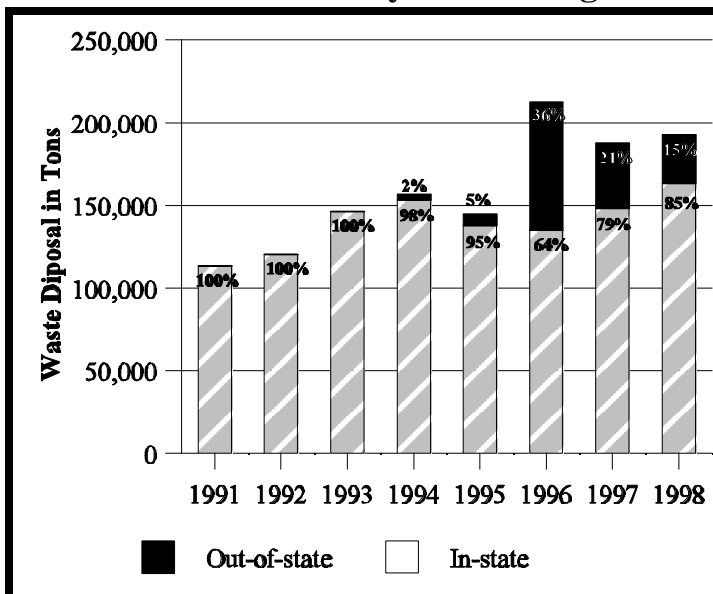


Table 10. Total Disposal at Construction-Demolition Sites during 1998

County Location of Facility	Facility Name	Waste Disposal In Tons
Allen	M & M C/D Site	371
Boone	Boone County Res/Rec Sys Inc.	3,740
Elkhart	County Road 45 Pit C/D Site	61,984
Lake	Feddeler C/D Site	45,661
Madison	Industrial Removal C/D Site	11,536
Marion	Dorsey Paving C/D Site	5,445
Monroe	Monroe Co. SWD C/D Site	17,171
Pike	Velpen Solid C/D Site	114
Posey	Springfield Environmental C/D Site	21,967
Tippecanoe	Purdue University C/D Site	536
Vanderburgh	Crowe Wrecking Company C/D Site	1,540
Vermillion	West Clinton II C/D Site	11,537
Wayne	New Paris Pike C/D Site	11,111
Total for All Construction-Demolition Landfills:		192,713

Restricted Waste Landfills

Restricted waste landfills also receive a limited range of wastes, as specified in the facility permit. Most sites are ash, sludge, or foundry monofills. A large number of the landfills are monofills that

receive coal combustion wastes from power plants. These coal combustion wastes accounted for 83 percent of the total tonnage disposed at restricted waste landfills in 1998 (Figure 12). Note that prior to 1996, coal combustion wastes were not individually reported waste types on the solid waste facility quarterly reporting program. Before 1996, the amount of coal-related wastes disposed was estimated based on the amount of waste received at specific types of restricted waste sites related to coal combustion.

The total waste disposed each year in restricted waste landfills is much larger than the amount received at construction-demolition landfills, although not as large as the amount of waste received by municipal solid waste landfills (Figure 4).

Figure 12. Annual Disposal at Restricted Waste Landfills by Waste Type

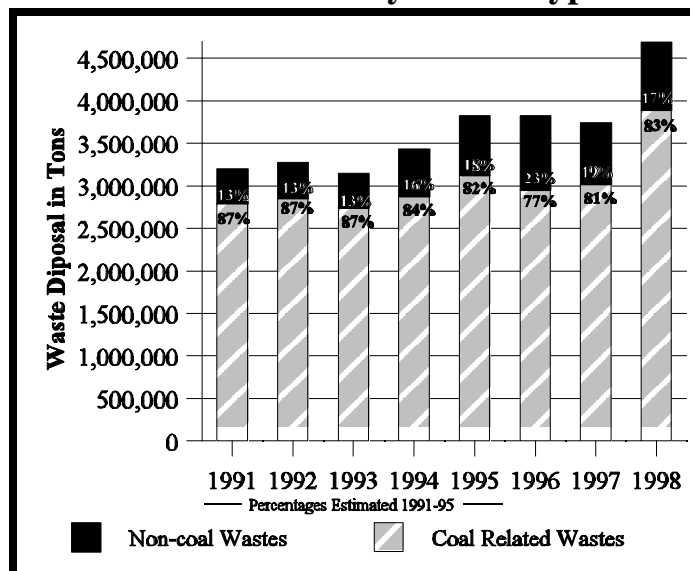


Table 11. Total Disposal at Restricted Waste Landfills during 1998

County Location of Facility	Facility Name	Waste Disposal In Tons
Bartholomew	City Garage Site RWS III	76,393
De Kalb	Auburn Foundry RWS III	100,179
Fountain	Harrison Steel Cast RWS III	54,014
Gibson	Gibson Station Scrubber RWS	1,709,703
Jasper	Schahfer FGD Sludge RWS I	136,452
Jefferson	Clifty Creek Coal Ash Disposal RWS III	46,951
Knox	Scepter Industries RWS I	29,337
Kosciusko	Dalton Foundry - RWS II	135,705
Lake	U.S. Steel - Gary Works RWS I	148,501
Marion	Belmont Sludge Ash Disposal Facility	29,967
Noble	Dalton Corp. RWS III	46,981
Perry	Waupaca Foundry RWS III	74,054
Pike	Petersburg Generating Station RWS III	512,057
Porter	Yard 520 RWS III	7,741
Posey	McCarty RWS III	26,656
Posey	SIGECO Filter Cake Disposal RWS III	332,291
Spencer	Rockport Plant Ash RWS II	192,140
Sullivan	Merom Station RWS II	933,406
Wabash	Ford Meter Box RWS III	2,956
Wabash	Wabash Alloys RWS I	94,000
Total for All Restricted Waste Landfills:		4,689,484

No restricted waste landfills have reported receiving out-of-state waste since 1991. Table 10 provides a listing of the restricted waste landfills and the total amount of waste each facility received during 1998.

Nonmunicipal Solid Waste Landfills

The 1996 rules introduced the terms municipal solid waste (MSW) landfill and nonmunicipal solid waste (NonMSW) landfill, which have been used throughout this report. In previous reports, NonMSW landfills were grouped with MSW landfills under the general heading of “sanitary landfills.” MSW landfills were discussed earlier in this section. There are only a few NonMSW landfills in Indiana and currently all are captive facilities and therefore, are not available for public use. Table 11 provides a listing of the nonmunicipal solid waste landfills and the total amount of waste each facility received during 1998.

Table 12. Total Disposal at Nonmunicipal Solid Waste Landfills during 1998

County Location of Facility	Facility Name	Waste Disposal In Tons
Martin	Crane NSWC Landfill	4,745
Monroe	Dillman Road WWTP Landfill	11,198
Putnam	Heritage LF	3,126
Vermillion	Inland Container Industrial Waste Site	13,674
Warrick	ALCOA Sanitary Landfill	13,266
Total for All Nonmunicipal Solid Waste Landfills:		46,009

SOLID WASTE PROCESSING FACILITIES

Solid waste processing facilities include:

- # solid waste incinerators;
- # transfer stations; and
- # other processing facilities.

Table 12 displays the amount of solid waste received by permitted Indiana incinerators (excluding small incinerators) and transfer stations by each reported waste type during 1998. Table 13 displays similar information from 1991 through 1998 for municipal and nonmunicipal waste. More detailed data for all solid waste processing facilities is given at the end of this report in "1998 Solid Waste Facility Profiles." Other processing facilities are discussed later in this section.

Table 13. Solid Waste Received by Processing Facilities by Waste Type during 1998

Waste Type	Tons of Waste Disposed	
	Incinerators ¹	Transfer Stations
Municipal	670,380	1,735,021
C/D	0	457,129
Foundry	0	398
Other Special	25,552	104
Coal Ash	0	0
FGD Waste	0	0
Other NonMSW	0	17,732
TOTAL	695,932	2,210,384

Table 14. Annual Amount of Solid Waste Received by Processing Facility Type and Waste Type

(Includes waste imports to Indiana)

Facility Type	Waste Type	Tons of Waste Received							
		1991	1992	1993	1994	1995	1996	1997	1998
Incinerators¹	MSW	672,616	691,546	731,929	687,198	682,249	689,859	681,147	670,380
	NonMSW	23,672	34,858	33,736	21,198	22,439	22,839	28,183	25,552
	TOTAL	696,288	726,404	765,665	708,396	704,688	712,698	709,330	695,932
Transfer Stations	MSW	774,589	873,466	981,681	1,210,393	1,409,747	1,434,712	1,522,361	1,735,021
	NonMSW	139,886	188,653	232,438	206,450	184,807	291,183	404,897	475,363
	TOTAL	914,475	1,062,119	1,214,119	1,416,843	1,594,554	1,725,895	1,927,258	2,210,384

Solid Waste Incinerators

For reporting and permitting purposes, solid waste incinerators are regarded as processing facilities. For solid waste planning and fee purposes, incinerators are considered as final disposal facilities. Table 14 provides a list of the permitted solid waste incinerators which operated in 1998 and the total amount of solid waste received by these facilities. The list does not include more than 200 small-capacity incinerators currently operating and deemed permitted in Indiana

¹ Does not include incinerators receiving less than 10 ton/day of solid waste, or less than 7 tons/day of infectious waste.

that are not required to report to IDEM (329 IAC 11-9-2).

Table 15. Total Waste Received at Incinerators during 1998

(does not include hospital incinerators)

County Location of Facility	Facility Name	Waste Received In Tons
Marion	Indianapolis Resource Recovery Facility	670,907
Marion	St. Vincent Hospital Incinerator	1,745
Posey	General Electric Ultem Thermal Oxidizer System	23,280
Total for All Incinerators:		695,932

As Table 14 shows, the Indianapolis Resource Recovery Facility received the greatest amount of waste of any permitted incinerator. The tonnage received annually at this facility is roughly equivalent to 4 percent of the total tonnage of waste either land disposed or incinerated in Indiana. From the waste received by the Indianapolis Resource Recovery Facility during 1998, there were 85,429 tons of ash produced and delivered to the Belmont Ash Monofill for disposal.

Transfer Stations

Transfer stations are facilities that allow waste from individual collection vehicles to be offloaded and then reloaded into larger vehicles for transport to final disposal facilities. Some transfer stations recover recyclable materials to be sent to processing or recycling facilities.

Figure 13. Transfer Station Waste Management

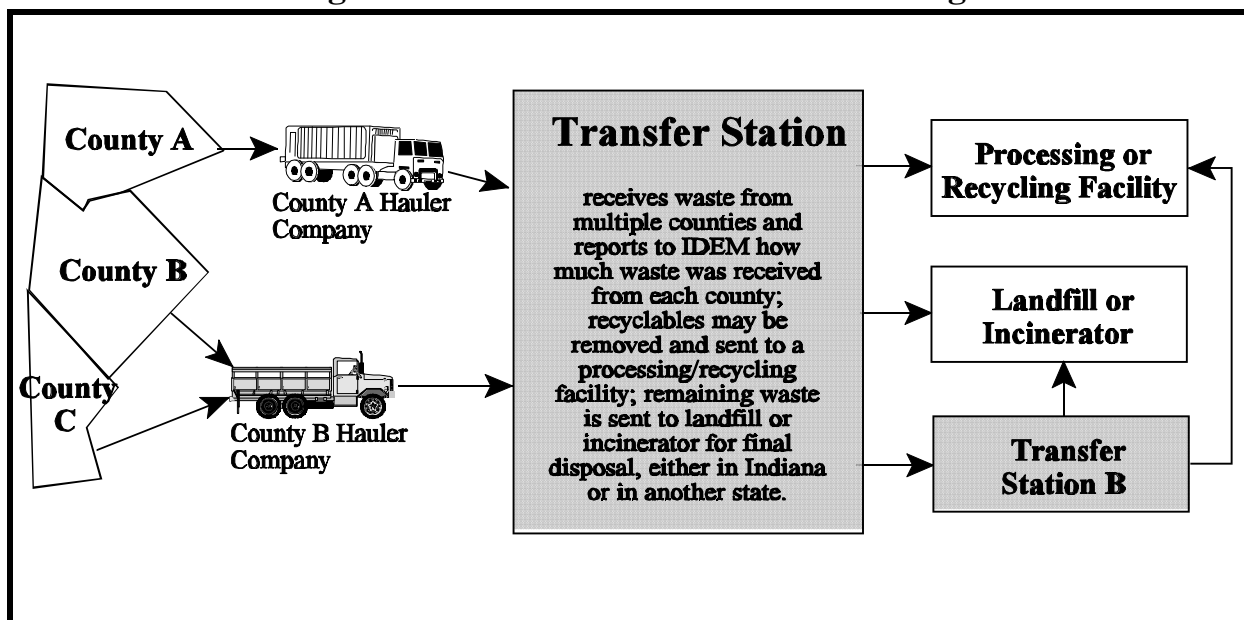


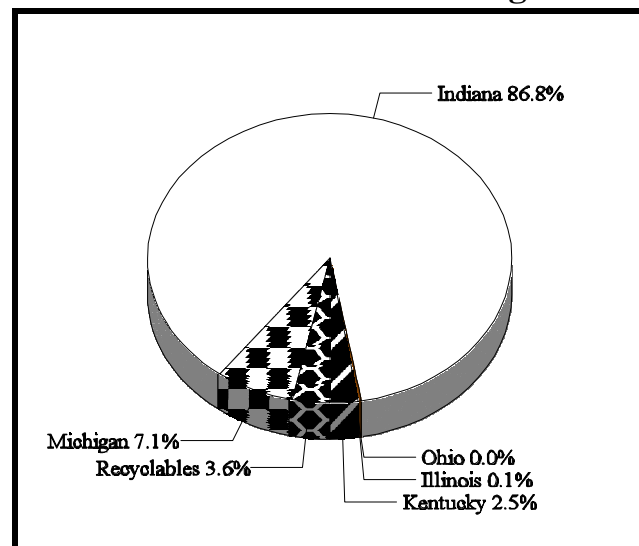
Table 16. Destination of Waste Sent from Transfer Stations for Final Disposal

Year	Total Tons Sent To All Facilities	To Indiana Facilities		To Out-of-State Facilities	
		Tonnage	% of Total	Tonnage	% of Total
1991	821,417	770,609	94%	50,808	6%
1992	987,797	971,031	98%	16,766	2%
1993	1,161,036	1,107,576	95%	53,460	5%
1994	1,347,550	1,200,340	89%	147,210	11%
1995	1,547,478	1,372,298	89%	175,180	11%
1996	1,683,462	1,512,391	90%	171,071	10%
1997	1,891,568	1,684,731	89%	206,837	11%
1998	2,136,790	1,923,947	90%	212,843	10%

The accountability for differences in incoming and outgoing waste at transfer stations has improved over the years. Although for the first few years of quarterly reporting there was no mechanism to track such differences, reporting forms have been improved since to include material recovery. Facilities are also required to submit a written explanation if the difference in tonnages is due to a reason other than materials recovery. In most instances, differences in incoming and outgoing tonnages are the result of materials recovery or differences in volume-to-tons conversions.

As discussed on page 7, it is difficult to track the true origin of waste. Waste collection vehicles may transport the waste directly to a landfill or they may take waste to a transfer station. A landfill receiving waste from a transfer station is instructed to document the waste as originating from the county in which the transfer station is located, regardless of whether any of the waste was generated in that county. The issue is further complicated when the transfer station receives waste from two or more counties, mixes the loads in a central location, removes various recyclables, then transports the waste to two or more landfills, another transfer station and/or a recycling facility. Figure 13 illustrates how the tonnage received from the counties may be known, but the waste sent for final disposal or processing may not directly identify the point of origin.

Quarterly reports from transfer stations currently provide the only source of systematic information on the amount of waste exported by Indiana. Table 15 shows the amount of waste sent out-of-state from transfer stations as compared to the amount of waste sent to Indiana final disposal facilities during 1991 to 1998. Figure 14 shows a more detailed breakdown of the destination information for 1998. This information does not provide a complete picture of Indiana waste exports, because the totals in Table 15 are based only on information obtained

Figure 14. Destination of Waste Sent from Transfer Stations during 1998

from processing facility quarterly reports. The amount of waste hauled directly from an Indiana residence or business to an out-of-state destination is not adequately known due to reporting limitations.

More detailed data for transfer stations is given at the end of this report in “1998 Solid Waste Facility Profiles.”

Other Processing Facilities

Other processing facilities permitted by IDEM could include paper, and medical waste processing facilities. During 1998, only one such processing facility was in operation: South Bend Waste Paper (see the “1998 Solid Waste Facility Profiles” page P-83). This recycling facility was not required to submit quarterly reports to IDEM (per 329 IAC 11-2-47(a)(3)) but did so voluntarily until July 1998.

IDEM issues permits to any solid waste processing facility upon which a solid waste incinerator, transfer station, solid waste baler, solid waste shredder, resource recovery system, composting facility or garbage grinding facility (as defined in 329 IAC 11-2-43, unless excluded by 329 11-3-1).

OUT-OF-STATE WASTE

Solid waste imported to Indiana from out-of-state sources can be received at landfills, incinerators, or transfer stations. The following discussion focuses on data for all facilities which have received out-of-state waste, with the exception of paper, tire, and medical processing facilities. These three types of processing facilities have received only small amounts of out-of-state waste, and therefore are not included in the following discussion. Tonnage data for each of these facilities can be found at the end of this report in "1998 Solid Waste Facility Profiles."

Since 1992, the predominant states of origin for solid waste imports have been the four contiguous states (Illinois, Michigan, Ohio, and Kentucky). As Figure 15 shows, the portion of out-of-state waste originating from non-contiguous states has decreased dramatically since 1991, and by 1995 accounted for less than 1 percent of Indiana's total imports. In 1998, no waste was received from East Coast states for the first time since the implementation of facility quarterly reports. Figure 15 also shows that despite a significant drop in the amount of out-of-state waste received by Indiana facilities from 1992 to 1994, waste imports increased significantly in 1995 and doubled in 1996. Out-of-state waste received by Indiana facilities increased further from 1996 to 1998 by 32 percent to their highest level in the last seven years (almost 2.9 million tons). In fact, in 1998, out-of-state waste accounted for 19 percent of the waste disposed at all of Indiana's landfills and 27 percent of the waste disposed in MSW landfills.

Figure 15. Annual Waste Imports by Region of Origin

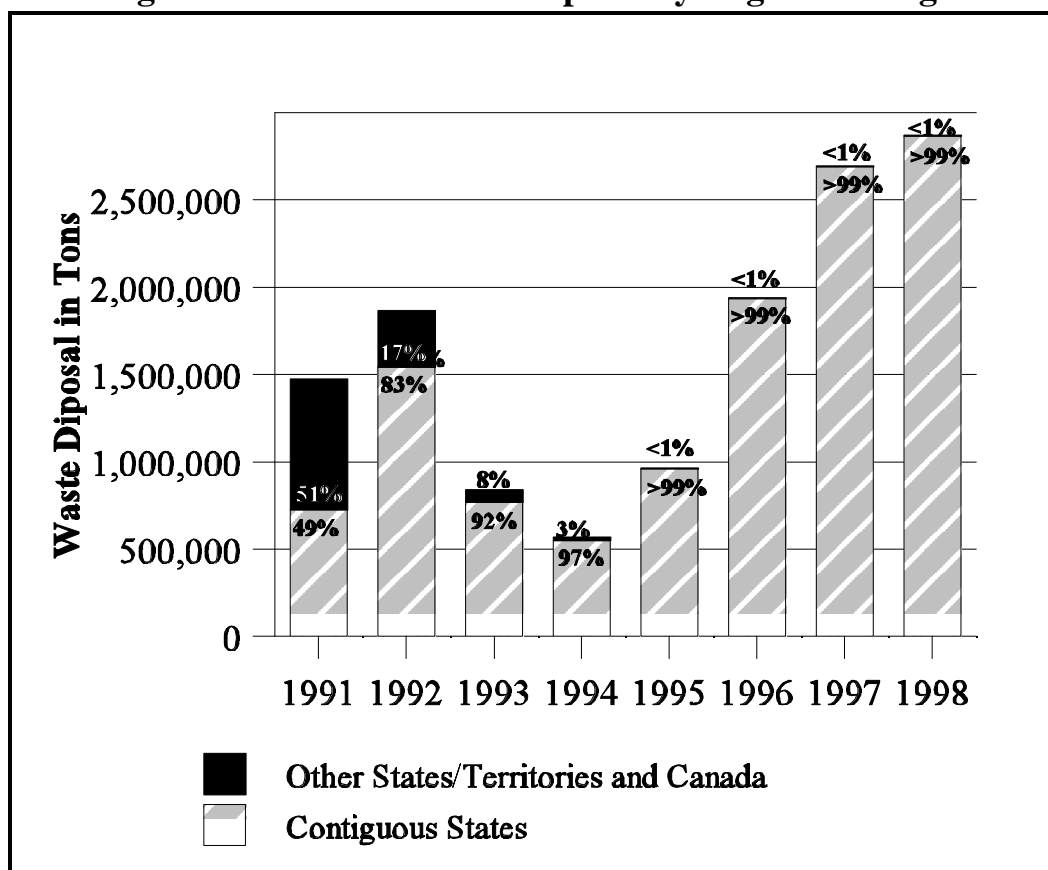


Table 17. Out-of-State Waste Received during 1998

#State	Tons	Total Tons: 2,871,225	
County Name	Received		
#Illinois	2,604,269	Hardin	22
Champaign	361	Henderson	61,457
Clark	1,873	Hopkins	23
Cook	2,541,410	Jackson	82
Crawford	18,319	Jefferson	9,690
Cumberland	4	Meade	200
Du Page	242	Ohio	3
Edgar	14,121	UNKNOWN	72
Effingham	33	Webster	39
Jasper	10	#Ohio	49,582
Kankakee	65	Allen	69
Lake	17	Auglaize	1,025
Lawrence	129	Cuyahoga	744
Madison	24	Darke	24,759
Marion	115	Defiance	65
Richland	1,690	Franklin	49
Tazewell	288	Hamilton	2,950
UNKNOWN	7,597	Henry	35
Vermilion	388	Lake	11
Wabash	6,307	Lucas	9
White	9	Mercer	1,157
Will	11,267	Montgomery	810
#Kentucky	176,103	Paulding	1,969
Breckinridge	12	Shelby	75
Christian	1	Summit	39
Daviess	104,261	UNKNOWN	1
Fayette	208	Van Wert	15,785
Gallatin	33	Williams	30
		#Michigan	38,008
		Berrien	3,691
		Branch	14,191
		Calhoun	3
		Cass	12,519
		Genesee	222
		Hillsdale	8
		St. Joseph	7,373
		Washtenaw	1
		#Wisconsin	1,171
		Milwaukee	770
		Winnebago	401
		#Missouri	897
		Jackson	567
		St. Louis	330
		#California	467
		Orange	377
		San Mateo	90
		#Nevada	334
		Storey	334
		#Texas	321
		Bexar	321
		#Louisiana	53
		St. Landry	53
		#Puerto Rico	20
		UNKNOWN	20

Table 17 details the state origin and amount of out-of-state waste received at Indiana solid waste facilities during 1998. Figure 16 shows this information from 1991 through 1998. Illinois has been historically the largest source of waste imported to Indiana. In 1998, Illinois waste accounted for 91 percent of the out-of-state received by Indiana solid waste facilities. Nearly all of that waste came from the Chicago area.

Table 18 displays the amount of out-of-state waste received by Indiana's permitted solid waste facilities by each reported waste type during 1998. Table 19 displays similar information from 1991 through 1998 for municipal and nonmunicipal waste. MSW landfills have consistently received most of the waste imported from other states. Figure 17 shows that municipal solid waste has historically accounted for the largest percentage of waste imports. However, nonmunicipal waste imports have risen considerably since 1995.

Figure 18 shows the distribution of the disposal of out-of-state waste among Indiana land disposal facilities. As Figure 18 shows, a relatively few number of facilities disposed of the majority of imported waste. Of the twenty-four final disposal facilities (23 landfills and 1 incinerator) that received out-of-state waste during 1998, 16% of the landfills disposed of four-fifths of the imported waste. In addition, almost all of the imported waste received by these four facilities was from Illinois.

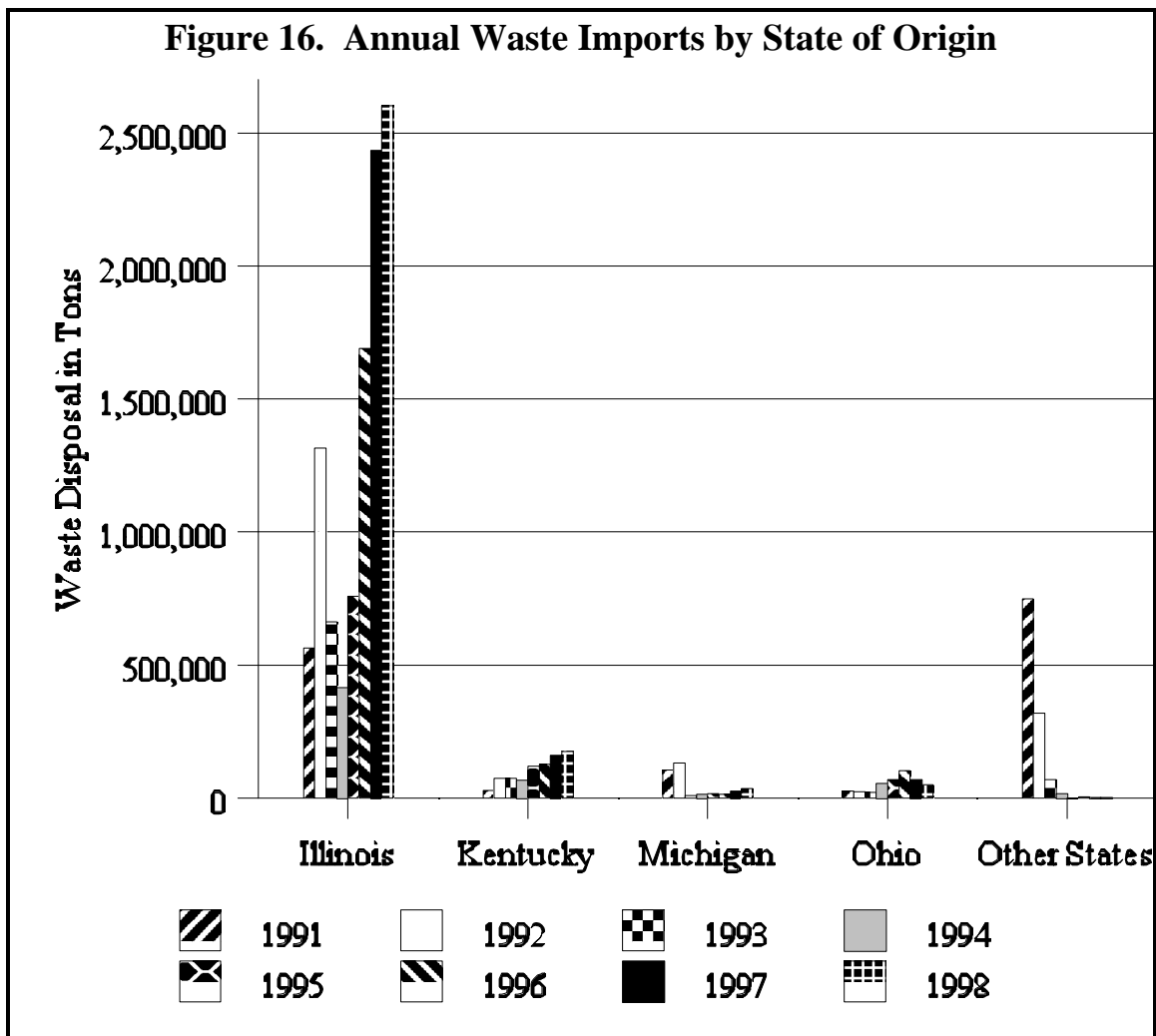


Table 18. Amount of Out-of-State Waste Received by Solid Waste Facilities by Facility Type and Waste Type during 1998

Waste Type	Tons of Waste Disposed					
	Municipal Solid Waste Landfills	Construction/Demolition Landfills	Non-MSW Landfills	Incinerators ¹	Transfer Stations ¹	All Facilities
Municipal	2,157,833	0	0	5,488	17,988	2,181,309
C/D	348,190	29,234	0	0	737	378,161
Foundry	0	0	0	0	0	0
Other Special	296,707	0	2,404	1,505	0	300,616
Coal Ash	0	0	0	0	0	0
FGD Waste	0	0	0	0	0	0
Other NonMSW	11,139	0	0	0	0	11,139
TOTAL	2,813,869	29,234	2,404	6,993	18,725	2,871,225

¹ No processing facilities other than transfer stations and incinerators received out-of-state waste during 1998.

Table 20 summarizes the annual amount of out-of-state waste received by Indiana's solid waste facilities during 1998. Table 21 provides a detailed look at the amount of waste that these facilities received from each state.

Although Indiana imports a considerable amount of solid waste, it also exports waste, primarily to contiguous states. A brief discussion of waste exports was provided in the previous section on solid waste processing facilities (see page 22).

"1998 Solid Waste Facility Profiles" at the end of this report provides more detailed summaries of waste imports to landfills, incinerators, and transfer stations.

Figure 17. Annual Amount of Out-of-State Waste Received by Solid Waste Facilities

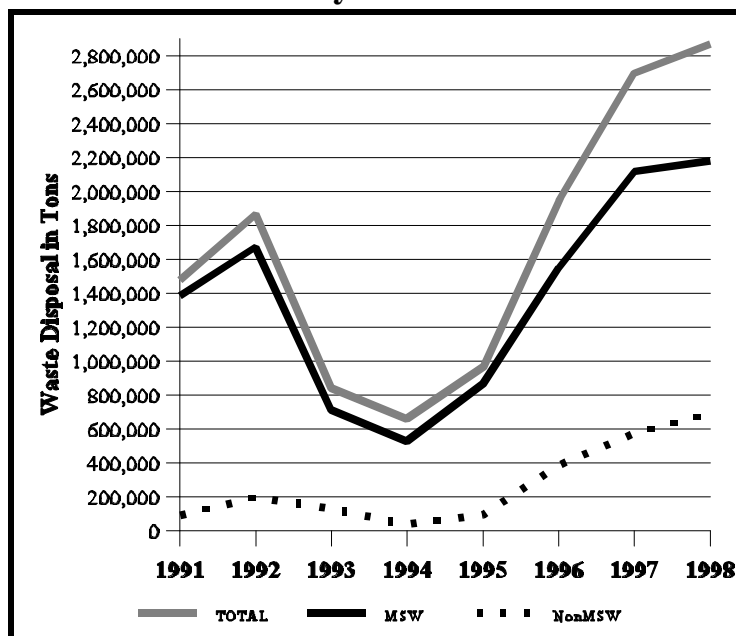


Table 19. Annual Amount of Out-of-State Waste Received by Solid Waste Facilities by Facility Type and Waste Type

Landfill Type	Waste Type	Tons of Waste Disposed							
		1991	1992	1993	1994	1995	1996	1997	1998
Municipal Solid Waste Landfills ⁽¹⁾	MSW	1,361,702	1,649,096	692,849	501,115	841,125	1,521,449	2,100,837	2,157,833
	NonMSW	90,576	194,883	128,751	35,033	82,334	311,637	538,619	656,036
	TOTAL	1,452,278	1,843,979	821,600	536,148	923,459	1,833,086	2,639,456	2,813,869
Construction/Demolition Sites	MSW	0	0	0	0	0	0	0	0
	NonMSW	0	0	0	3,297	6,775	77,398	39,468	29,234
	TOTAL	0	0	0	3,297	6,775	77,398	39,468	29,234
Nonmunicipal Solid Waste Landfills	MSW	0	0	0	0	0	0	0	0
	NonMSW	0	0	0	0	0	0	0	2,404
	TOTAL	0	0	0	0	0	0	0	2,404
Incinerators (nonhospital)	MSW	412	2,488	1,119	2,409	2,560	7,777	5,228	5,488
	NonMSW	483	270	0	0	171	599	855	1,505
	TOTAL	895	2,758	1,119	2,409	2,731	8,376	6,083	6,993
Transfer Stations ⁽²⁾	MSW	24,383	19,454	18,118	26,898	24,202	22,604	10,448	17,988
	NonMSW	65	27	367	640	6,621	604	519	737
	TOTAL	24,448	19,481	18,485	27,538	30,823	23,208	10,967	18,725
All Facilities	MSW	1,386,497	1,671,038	712,086	530,422	867,887	1,551,830	2,116,513	2,181,309
	NonMSW	91,124	195,180	129,118	38,970	95,901	390,238	579,461	689,916
	TOTAL	1,477,621	1,866,218	841,204	569,392	963,788	1,942,068	2,695,974	2,871,225

- (1) This reflects only the tonnages of out-of-state waste shipped directly to MSW landfills. Most of the out-of-state waste received by transfer stations was sent to Indiana MSW landfills for final disposal. However, these MSW landfills reported the origin of this out-of-state waste as the county in which the transfer station was located, rather than the state in which the waste originated, in accordance with IDEM guidance.
- (2) Between 1991 and 1996, the majority of this waste was sent to Indiana final disposal facilities. In 1997, 30% of out-of-state waste received by Indiana facilities was sent to either MI or KY facilities for disposal. In 1998, 45% was sent out-of-state for disposal mostly to MI or KY.

Figure 18. Distribution of Disposal of Out-of-State Waste Received at Indiana Final Disposal Facilities during 1998

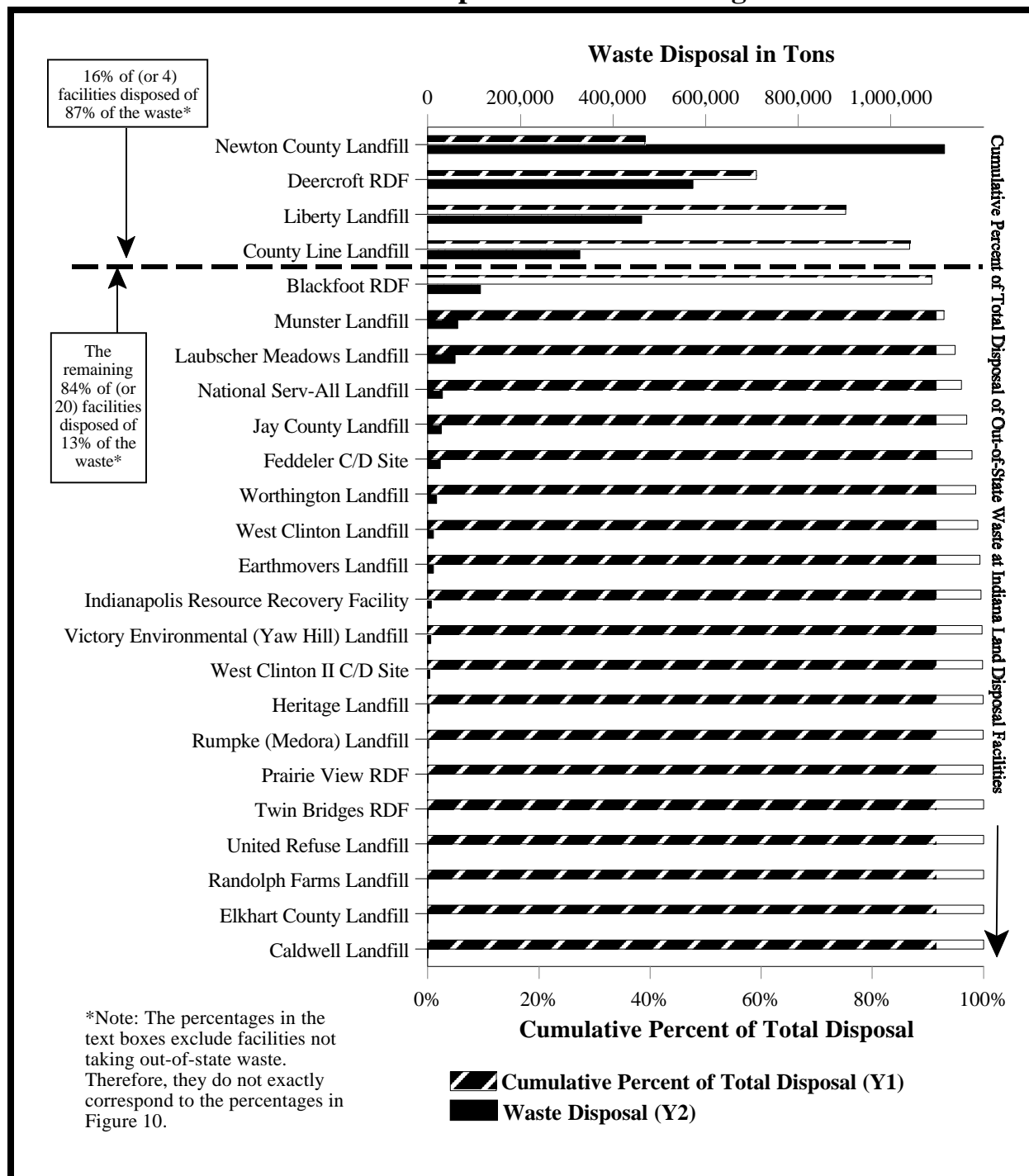


Table 20. Total Out-of-State Waste Received by Facility during 1998

County Location of Facility	Facility Name	Type of Facility	Tons of Out-of-State Waste Received
Allen	National Serv-All Landfill	MSW Landfill	30,810
Allen	United Refuse Landfill	MSW Landfill	254
Clark	Bi-Co Transfer Station	Transfer Station	8,491
De Kalb	Merritt Processing Facility	Transfer Station	38
Dubois	Huntingburg Transfer Station	Transfer Station	40
Elkhart	Earthmovers Landfill	MSW Landfill	10,632
Elkhart	Elkhart County Landfill	MSW Landfill	7
Fulton	County Line Landfill	MSW Landfill	327,412
Greene	Worthington Landfill	MSW Landfill	17,626
Harrison	Gray Disposal Service Transfer Station	Transfer Station	212
Hendricks	Twin Bridges RDF	MSW Landfill	361
Jackson	Rumpke (Medora) Landfill	MSW Landfill	811
Jay	Jay County Landfill	MSW Landfill	28,618
Knox	Eastern Services Transfer Station	Transfer Station	9
La Porte	Deercroft RDF	MSW Landfill	570,982
Lagrange	Scott Recycling Facility	Transfer Station	1,114
Lake	Feddeler C/D Site	Construction/Demolition Site	26,556
Lake	Illiana I Transfer Station	Transfer Station	4,114
Lake	Munster Landfill	MSW Landfill	63,451
Lake	Illiana II Station	Transfer Station	294
Marion	Indianapolis Resource Recovery Facility	Incinerator	6,993
Newton	Newton County Landfill	MSW Landfill	1,114,593
Noble	Kendallville Iron & Metal, Inc.	Transfer Station	23
Pike	Blackfoot RDF	MSW Landfill	112,417
Pike	Blackfoot Resource Recovery Facility	Transfer Station	144
Porter	Able Disposal Recycling and Transfer Station	Transfer Station	1,722
Putnam	Heritage Landfill	Non-MSW Landfill	2,404
Randolph	Randolph Farms Landfill	MSW Landfill	36
Shelby	Caldwell Landfill	MSW Landfill	4
St. Joseph	Prairie View RDF	MSW Landfill	386
Vanderburgh	Laubscher Meadows Landfill	MSW Landfill	57,992
Vanderburgh	Materials Recycling and Transfer Station	Transfer Station	2,524
Vermillion	West Clinton II C/D Site	Construction / Demolition Site	2,678
Vermillion	West Clinton Landfill	MSW Landfill	11,328
Vigo	Victory Environmental (Yaw Hill) Landfill	MSW Landfill	4,986
White	Liberty Landfill	MSW Landfill	461,163
Total for All Facilities:			2,871,225

Figure 19. Origin of Waste Disposed and Incinerated in Indiana during 1998

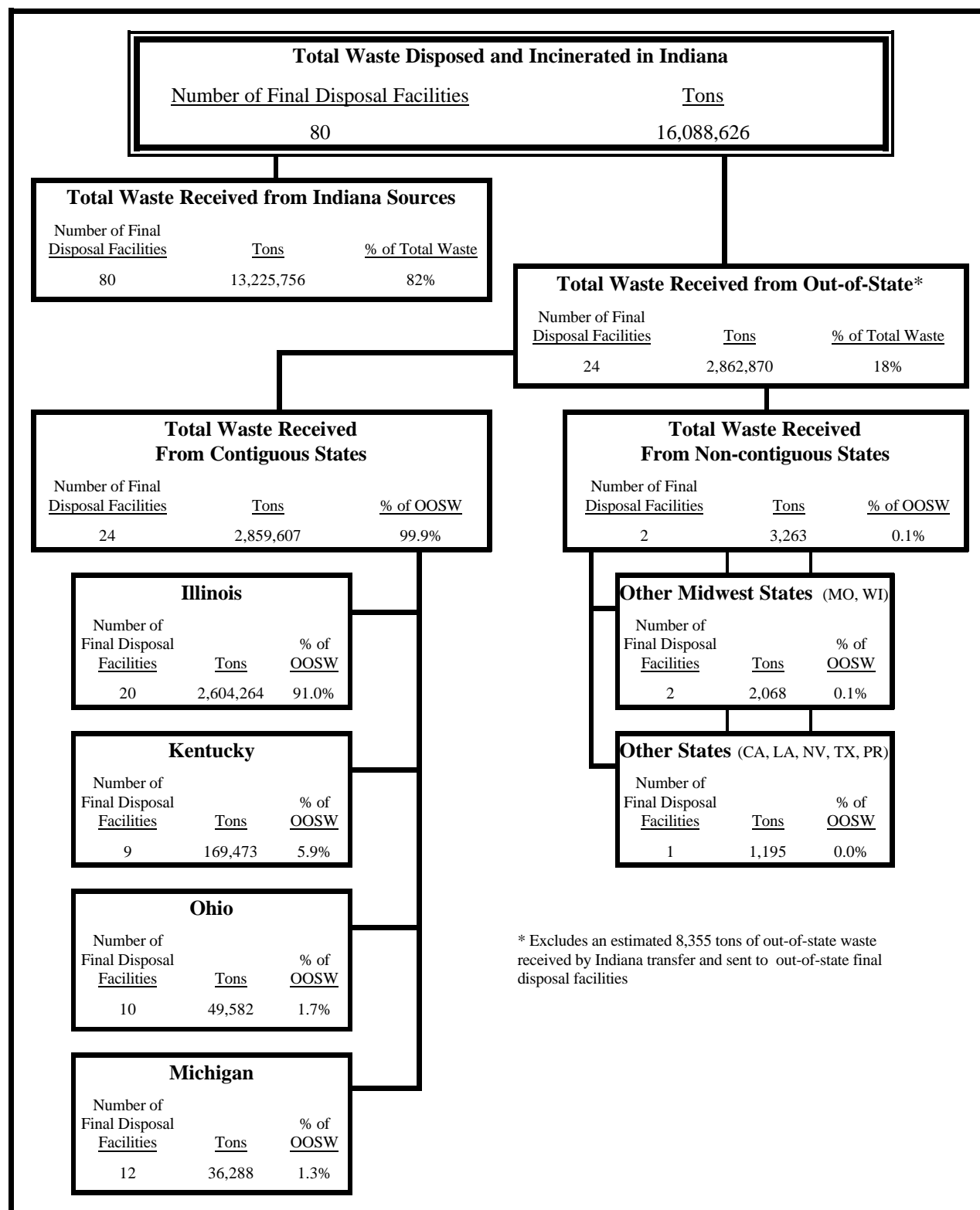


Table 21. Out-of-State Waste Received by Indiana Solid Waste Facilities during 1998

County Name	Facility Name	Facility Type	Contiguous States					Other States/Territories								Total Tons
			IL	KY	MI	OH	CA	LA	MO	NV	TX	WI	PR			
Allen	National Serv-All Landfill	MSW Landfill			14,731	16,079								30,810	1.07%	
Allen	United Refuse Landfill	MSW Landfill				35	219							254	0.01%	
Clark	Bi-Co Transfer Station	Transfer Station		8,491										8,491	0.30%	
De Kalb	Merritt Processing Facility	Transfer Station			21	17								38	0.00%	
Dubois	Huntingburg Transfer Station	Transfer Station	40											40	0.00%	
Elkhart	Earthmovers Landfill	MSW Landfill			10,632									10,632	0.37%	
Elkhart	Elkhart County Landfill	MSW Landfill			7									7	0.00%	
Fulton	County Line Landfill	MSW Landfill	327,314			98								327,412	11.40%	
Greene	Worthington Landfill	MSW Landfill	17,626											17,626	0.61%	
Harrison	Gray Disposal Service Transfer Station	Transfer Station		212										212	0.01%	
Hendricks	Twin Bridges RDF	MSW Landfill	361											361	0.01%	
Jackson	Rumpke (Medora) Landfill	MSW Landfill		241		570								811	0.03%	
Jay	Jay County Landfill	MSW Landfill				28,618								28,618	1.00%	
Knox	Big T Disposal Transfer Station	Transfer Station	9											9	0.00%	
La Porte	Deercroft RDF	MSW Landfill	561,039		9,461							482		570,982	19.89%	
Lagrange	Scott Recycling Facility	Transfer Station			1,114									1,114	0.04%	
Lake	Feddeler C/D Site	Construction/Demolition	26,556											26,556	0.92%	
Lake	Illiana Resource Transfer	Transfer Station	4,114											4,114	0.14%	
Lake	Munster Landfill	MSW Landfill	63,451											63,451	2.21%	
Lake	Service Waste Recycle/Transfer Station	Transfer Station	294											294	0.01%	
Marion	Indianapolis Re-Recovery Facility	Incinerator	1,962	404	222	1,624	467	53	897	334	321	689	20	6,993	0.24%	
Newton	Newton County Landfill	MSW Landfill	1,114,593											1,114,593	38.82%	
Noble	Kendallville Iron & Metal Trans. Sta.	Transfer Station			23									23	0.00%	
Pike	Blackfoot RDF	MSW Landfill	6,334	106,083										112,417	3.92%	
Pike	Blackfoot Resource Recovery Facility	Transfer Station		144										144	0.01%	
Porter	Able Disposal Recycling and Trans. Sta.	Transfer Station	156		1,566									1,722	0.06%	
Putnam	Heritage Landfill	Non-MSW Landfill				2,404								2,404	0.08%	
Randolph	Randolph Farms Landfill	MSW Landfill				36								36	0.00%	
St. Joseph	Prairie View RDF	MSW Landfill	288		98									386	0.01%	
Shelby	Caldwell Landfill	MSW Landfill				4								4	0.00%	
Vanderburgh	Laubscher Meadows Landfill	MSW Landfill		57,992										57,992	2.02%	
Vanderburgh	Materials Recycling and Trans. Station	Transfer Station	21	2,503										2,524	0.09%	
Vermillion	West Clinton II C/D Site	Construction/Demolition	2,678											2,678	0.09%	
Vermillion	West Clinton Landfill	MSW Landfill	11,328											11,328	0.39%	
Vigo	Victory Environmental (Yaw Hill) LF	MSW Landfill	4,986											4,986	0.17%	
White	Liberty Landfill	MSW Landfill	461,119	33		11								461,163	16.06%	
Total for All Facilities			2,604,269	176,103	38,008	49,582	467	53	897	334	321	1,171	20	2,871,225		
			90.70%	6.13%	1.32%	1.73%	0.02%	0.00%	0.03%	0.01%	0.01%	0.04%	0.00%			

1998 Solid Waste Facility Profiles

(Ordered alphabetically by
county location of facility)